

What is claimed is:

1. An optical switch, comprising:

an input block in which light is incident;

5 an output block to which input light from the input block is transferred; and

a reflector for performing a switching operation by reflecting input light from the input block;

wherein the input block and the output block are arranged so as to make

input light from the input block and reflected light reflected by the reflector and

10 transferred to the output block have an acute angle less than 90 degrees.

2. The optical switch of claim 1, wherein the input block consists of a

first input block and a second input block arranged to have an obtuse angle

greater than 90 degrees therebetween, and the output block consists of a first

15 output block and a second output block arranged to have an obtuse angle greater

than 90 degrees therebetween.

3. The optical switch of claim 2, wherein the first input block and the

second output block are arranged at a side of a package main body to have an

20 acute angle therebetween, and the second input block and the first output block

are arranged at the other side of the package main body to have an acute angle

therebetween.

4. The optical switch of claim 1, wherein plural first input blocks and

25 plural second input blocks are arranged to have an obtuse angle greater than 90

degrees therebetween, plural first output blocks and plural second output blocks are arranged to have an obtuse angle greater than 90 degrees, and the reflector is arranged at all positions at which a straight line between the first input blocks and the first output blocks and a straight line between the second input blocks and the 5 second output blocks cross each other.

5. The optical switch of claim 4, wherein four first input blocks and four second input blocks are respectively arranged, and four first output blocks and four second output blocks are respectively arranged.

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6. The optical switch of claim 4, wherein the first input block and the second output block are arranged at a side of a package main body to have an acute angle less than 90 degrees, and the second input block and the first output block are arranged at the other side of the package main body to have an acute 15 angle less than 90 degrees.

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7. An optical switch, comprising:  
an input block in which light is incident;  
an output block to which input light from the input block is transferred; and  
a reflector for performing a switching operation by reflecting input light from the input block;

wherein the input block and the output block are arranged so as to make input light from the input block and reflected light reflected by the reflector and transferred to the output block have an obtuse angle greater than 90 degrees.

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8. The optical switch of claim 7, wherein the input block consists of a first input block and a second input block arranged to have an acute angle less than 90 degrees therebetween, and the output block consists of a first output block and a second output block arranged to have an acute angle less than 90 degrees  
5 therebetween.

9. The optical switch of claim 8, wherein the first input block and the second output block are arranged at a side of a package main body to have an acute angle therebetween, and the second input block and the first output block  
10 are arranged at the other side of the package main body to have an acute angle therebetween.

10. The optical switch of claim 7, wherein plural first input blocks and plural second input blocks are arranged to have an acute angle less than 90 degrees therebetween, plural first output blocks and plural second output blocks  
15 are arranged to have an acute angle less than 90 degrees therebetween, and the reflector is arranged at all positions at which a straight line between the first input blocks and the first output blocks and a straight line between the second input blocks and the second output blocks cross each other.

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11. The optical switch of claim 10, wherein four first input blocks, four second input blocks, four first output blocks, and four second output blocks are respectively arranged.

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12. The optical switch of claim 10, wherein the first input blocks and

the second output blocks are arranged at a side of a package main body to have an acute angle less than 90 degrees, and the first output blocks and the second output blocks are arranged at the other side of the package main body to have an acute angle less than 90 degrees.

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13. The optical switch according to one of claim 1 or 7, further comprising:

a drive unit for moving the reflector to a direction reflecting input light and a direction not reflecting input light.

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14. The optical switch of claim 13, wherein the drive unit includes:

a moving member connected with the reflector to move the reflector;

a spring for supporting the moving member and making the moving member return to an initial state; and

15 an electromagnetic force generator for moving the moving member when a current is applied and maintaining the moved state of the moving member when a current is not continually applied.

15. The optical switch of claim 14, wherein an end of the moving member is fixed to the spring, the other end thereof is arranged as a free end shape, a magnetic body is fixed thereto, and it is rotated-moved within a certain range by the action of the electromagnetic generator.

16. The optical switch of claim 15, wherein the magnetic body is made 25 of a weakmagnetic material.

17. The optical switch of claim 15, wherein the magnetic body is made of a permanent magnet.

5 18. The optical switch of claim 14, wherein both ends of the spring are respectively supported by an optical switch main body, and it is constructed as a plate spring for generating a twisted elastic force.

10 19. The optical switch of claim 14, wherein the electromagnetic force generator includes:

15 a core arranged at right angles to the free end of the moving member on which the magnet is adhered, made of a ferromagnetic material in order to rotate the moving member on which the magnet is fixed by generating a magnetic force when current is applied to a coil and maintain the moving member-rotated state by maintaining an electromagnetic force when the current applied to the coil is cut off;

and

a coil wound around the core to apply a current.

20 20. The optical switch of claim 19, wherein the electromagnetic force generator is arranged in a straight line on the moving member to make the moving member perform a reciprocating motion up and down.

21. The optical switch of claim 19, wherein a yoke for forming a magnetic path is formed at the bottom of the electromagnetic generator.

22. The optical switch of claim 19, wherein a yoke for forming a magnetic path is formed at the bottom and the side of the electromagnetic generator.

5 23. The optical switch of claim 19, wherein a yoke for forming a magnetic path is formed so as to cover the whole circumference of the electromagnetic generator.